



POCKET GUIDE FOR THE M-60 MACHINEGUN TEAM

B 21-1-6

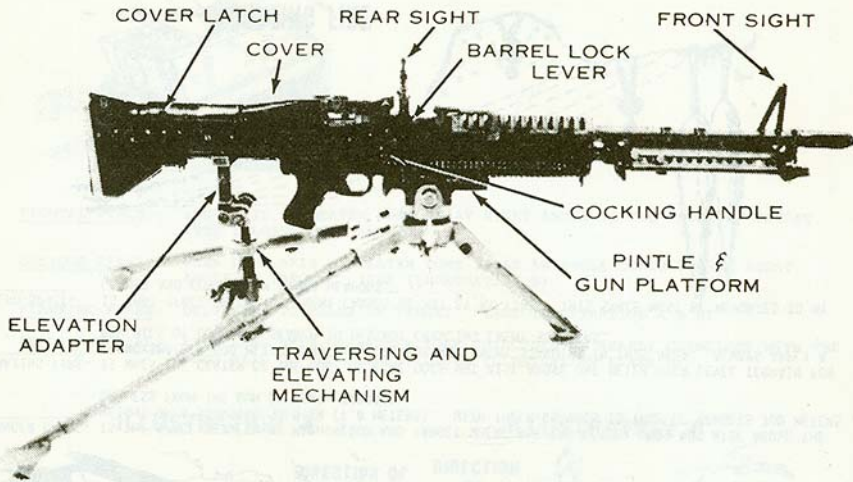
Digitized by:

SMALL ARMS OF THE WORLD
SMALLARMSOFTHEWORLD.COM

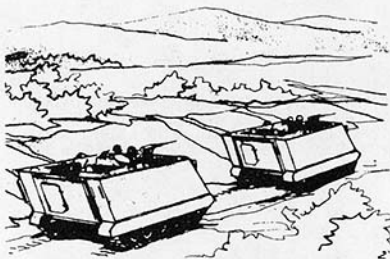
This booklet is reprinted with the permission from
COL Burke RR II, Fort Dix, N. J.

- THIS BOOKLET, ALTHOUGH IT REPRESENTS ACCEPTED DOCTRINE, TACTICS AND WEAPONS CHARACTERISTICS, IS NOT AN OFFICIAL PUBLICATION OF THE DEPARTMENT OF THE ARMY.
- USERS OF THIS BOOKLET ARE ENCOURAGED TO SUBMIT COMMENTS, SUGGESTIONS OR RECOMMENDATIONS TO IMPROVE ITS USEFULNESS. COMMENTS SHOULD BE KEYED TO THE SPECIFIC PAGE IN THE TEXT IN WHICH THE CHANGE IS RECOMMENDED. REASONS SHOULD BE PROVIDED FOR EACH COMMENT TO INSURE UNDERSTANDING AND COMPLETE EVALUATION. FORWARD COMMENTS TO:

US ARMY READINESS REGION II
ATTN: INFANTRY COORDINATOR
FORT DIX, NEW JERSEY 08640
AV 944-2453/2691
COMM 609-562-2453/2691



THE M-60 MACHINEGUN IS CAPABLE OF PROVIDING ACCURATE LONG RANGE FIRES AND A HIGH VOLUME OF CLOSE-IN FIRES. THIS BOOKLET HAS BEEN PREPARED TO ASSIST YOU, THE M-60 MACHINE GUNNER, IN EITHER THE MECHANIZED OR LIGHT INFANTRY UNIT, IN THE PROPER EMPLOYMENT OF THE WEAPON. FOLLOWING THE TECHNIQUES CONTAINED IN THIS DOCUMENT WILL AID YOU IN OBTAINING THE MAXIMUM BENEFIT FROM THE WEAPON'S CAPABILITIES.



The platoon leader said we'd be at the defense position in 20 minutes. I'd better review some things on M-60 machinegun employment.

DANGER SPACE- IS THE SPACE BETWEEN MY MACHINEGUN AND TARGET WHERE THE TRAJECTORY DOES NOT RISE ABOVE THE HEIGHT OF A STANDING SOLDIER (1.8 METERS). WITH THE M-60 THIS IS TRUE OF TARGETS 700 METERS OR LESS FROM THE GUN ON LEVEL TERRAIN.

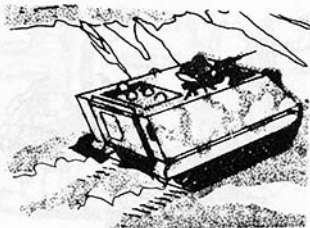
GRAZING FIRE- IS WHEN THE CENTER OF THE CONE OF FIRE DOES NOT RISE ABOVE ONE METER OVER LEVEL TERRAIN FOR APPROXIMATELY 600 METERS AND WILL DESTROY ANY ENEMY STANDING IN THIS AREA. ALWAYS APPLY A FEW MILS OF DOWNWARD SEARCH TO DESTROY CRAWLING ENEMY SOLDIERS.

DEAD SPACE- IS THAT SPACE WHERE THE ENEMY CANNOT BE HIT BY MY FIRE. THIS SPACE MUST BE REPORTED TO MY LEADER AND COVERED BY OTHER WEAPONS.



----- GRAZING FIRE

x x x x x x DEAD SPACE



Let's see. What kinds of fire can my M-60 deliver?

FRONTAL FIRES - LONG AXIS OF BEATEN ZONE IS AT RIGHT ANGLE TO THE FRONT OF TARGET. (SEE ILLUSTRATION A)

OBLIQUE FIRES - WHEN LONG AXIS OF BEATEN ZONE IS AT AN ANGLE OTHER THAN A RIGHT ANGLE TO TARGET. (SEE ILLUSTRATION B)

FLANKING FIRES- DELIVERED TO FLANK OF TARGET. (SEE ILLUSTRATION A & B)

ENFILADE FIRES- WHEN LONG AXIS OF BEATEN ZONE COINCIDES OR NEARLY COINCIDES WITH THE LONG AXIS OF THE TARGET. (SEE ILLUSTRATION A AND B)

ILLUSTRATION 'A'

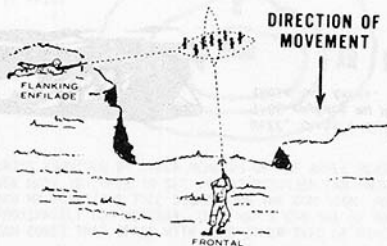
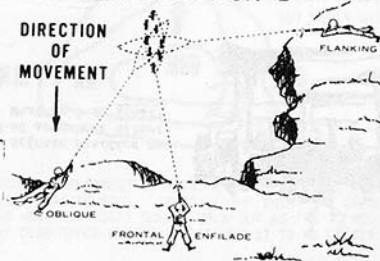


ILLUSTRATION 'B'





Well, there's the defense position and I'll emplace my M-60 somewhere between those two trees. What do I do first?



THE M-60 GIVES A HIGH RATE OF ACCURATE SHORT AND LONG RANGE FIRE. SO, I'VE GOT TO SET UP A HASTY GUN EMPLACEMENT AS FAST AS POSSIBLE TO COVER THE REST OF THE UNIT. THE PLATOON LEADER GAVE ME A LIST OF WHAT I MUST ACCOMPLISH AND IN WHAT ORDER BEFORE HE WAS CALLED TO COMPANY HQ'S FOR A BRIEFING.

I'd better get that list of job priorities straight in my head. First _____



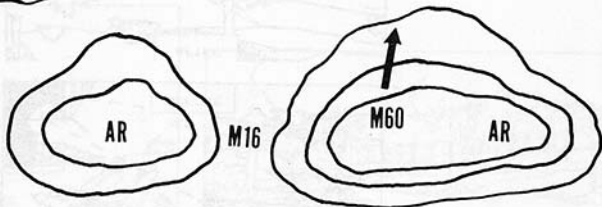
DREAM SHEET

1. ESTABLISH HASTY POSITION.
2. OCCUPY THE SELECTED PERMANENT POSITION.
3. PREPARE MG FIGHTING POSITION.
4. CLEAR FIELDS OF FIRE (BUT KEEP MY COVER AND CONCEALMENT INTACT).
5. MAKE RANGE CARD.
6. PUT UP OVERHEAD COVER.
7. FAMILIARIZE MYSELF WITH ADJACENT WEAPONS.
8. CONTINUE TO IMPROVE POSITION.

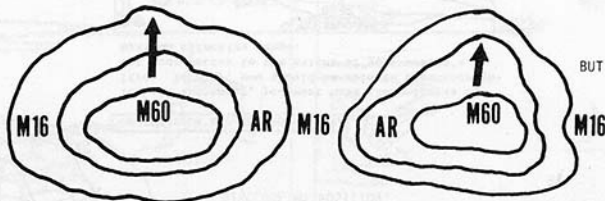


Here's my hasty position, with brush for some cover and concealment. My Platoon Leader selected another site for my permanent position. What factors did he use to make his selection?

FIRST, HE COULD HAVE EMPLOYED THE M-60s SINGLY

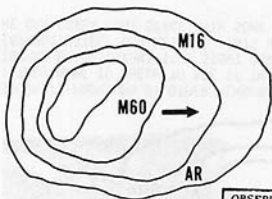


OR IN PAIRS



BUT NEVER WITHOUT

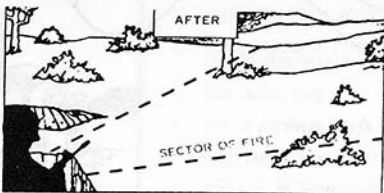
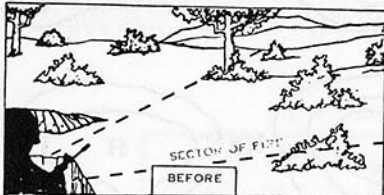
SECURITY PROVIDED BY OTHER MEMBERS OF THE RIFLE PLATOON. EMPLOYMENT IN PAIRS IS THE PREFERRED METHOD. I THEN HAVE TO CHECK TO SEE IF THE POSITION CAN PROVIDE GRAZING FIRE. (BECAUSE THE ENEMY MAY CRAWL TOWARD MY POSITION) I'LL SIGHT DOWN THE GUN SIGHT AND HAVE THE ASS'T GUNNER WALK OUT AS FAR AS POSSIBLE (APPROXIMATELY 600 METERS) THIS WAY I CAN SEE IF ANY DEAD SPACE EXISTS AND REPORT IT TO MY LEADER SO HE CAN COVER THAT SPACE WITH SOME OTHER TYPE OF FIRE.



THIS IS A GOOD SITE ON THE FORWARD EDGE OF THIS KNOLL. I'VE GOT APPROXIMATELY 600 METERS OF GRAZING FIRE WITH NO DEAD SPACE. BUT THE FIELDS OF FIRE NEED TO BE IMPROVED. THIS WILL ALSO INCREASE MY OBSERVATION. I MUST REMEMBER WHEN CLEARING THE FIELD OF FIRE TO CLEAR ONLY THE VEGETATION IN A WAY THAT WILL NOT UNNECESSARILY DISCLOSE MY POSITION.

OBSERVATION AND FIELDS OF FIRE

To kill the enemy, you must have clear fields of fire. Ideally, you should be able to fire throughout your sector to the extent of your weapon's maximum effective range.

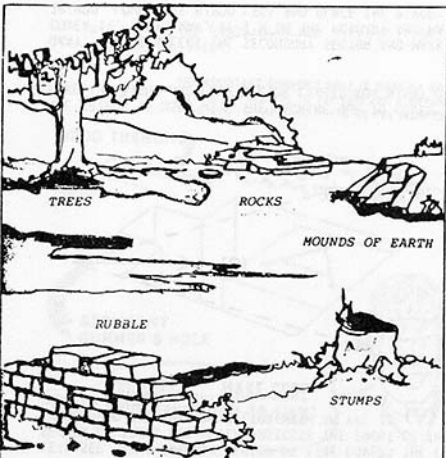


NOTE: You must be able to clearly see and fire at the enemy, yet enough foliage must remain to appear natural to the enemy.

THE VEGETATION I CLEAR WILL BE PLACED IN A SPOT OUT OF OBSERVATION OF THE ENEMY. SOME WILL BE USED FOR MY OWN COVER AND CONCEALMENT AFTER I PREPARE MY FIGHTING POSITION.

COVER

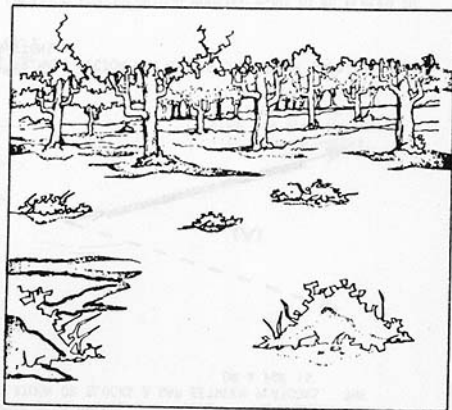
Cover is any shielding from the effects of enemy fire. Particularly essential is shielding from the effects of direct fire. Ideally, positions should be constructed behind natural cover such as:



IF NATURAL COVER IS NOT AVAILABLE, CONSTRUCT YOUR OWN COVER: MAKE A MOUND, OR PARAPET.

CONCEALMENT

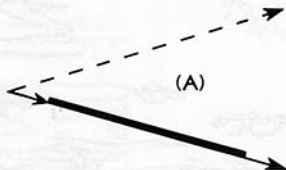
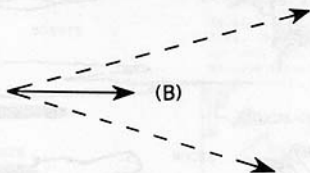
Concealment is any brush, grass or camouflage--any material, either natural or artificial--that hides or disguises your position. From the enemy's point of view, your defense looks like this:



GOOD POSITIONS CANNOT BE SEEN FROM THE FRONT. THIS MEANS THE ENEMY CANNOT SUPPRESS WELL.

NOW TO ESTABLISH MY PRIMARY SECTOR WITH AN FPL OR PDF AND MY SECONDARY SECTOR OF FIRE.

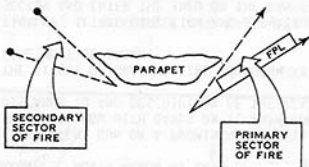
LETS SEE. THE PRIMARY SECTOR OF FIRE COVERS THE ENEMY'S BEST AVENUE OF APPROACH. THE PRIMARY SECTOR CONTAINS FPL WHICH PROTECTS THE FRONT OF THE PLATOON OR BLOCKS A GAP BETWEEN PLATOONS. THE SYMBOL FOR THE PRIMARY SECTOR WITH AN FPL IS (A) OR A PDF IS DENOTED BY (B)



THE TRIPOD IS USED WITH THE MACHINE GUN TO COVER THE PRIMARY SECTOR AND AIMING STAKES ARE USED TO MAKE THE RIGHT AND LEFT SECTOR LIMITS FOR NIGHT OPERATIONS.

OKAY. NOW I SELECT THE SECONDARY SECTOR AND MARK A LOCATION FOR THE BIPOD MOUNTED M-60 TO BE PLACED TO COVER IT. THIS WAY, IF I'M ON THE PRIMARY AND HAVE TO SHIFT TO THE SECONDARY, I JUST DISCONNECT THE TRIPOD, LOWER THE BIPOD LEGS AND PLACE THE BIPOD IN ITS TRENCH AND FIRE. I REMEMBER THE SYMBOL FOR THE SECONDARY SECTOR AS ARE USED TO MARK LEFT AND RIGHT SECTOR LIMITS.



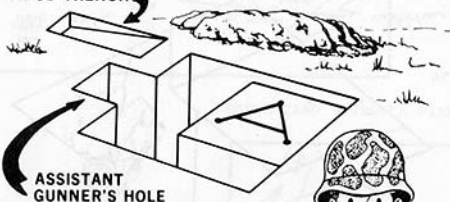


NOW I'VE GOTTEN MY PRIMARY AND SECONDARY SECTORS PLANNED, AND FPL FIRES FIRMED UP: MY FPL WAS WALKED BY MY ASS'T GUNNER AND NO DEAD SPACES EXIST: NOW I NEED TO ESTABLISH DATA FOR TARGETS IN THESE SECTORS. THESE AREAS ARE GIVEN PRIORITY FOR FIRES IF ENEMY IS OBSERVED IN THEM. WHEN THE PLATOON LEADER COMES BACK, HE CAN APPROVE OR CHANGE ALL MY PLANS BUT I'M READY IN CASE.

WHILE I DO THE RANGE CARD FOR THIS POSITION, I'LL HAVE THE ASS'T GUNNERY START PREPARING THE FIGHTING POSITION.

THE ASSISTANT GUNNER'S HOLE IS MADE BY GOING OUT 2 BAYONETS PARALLEL TO THE GUN AND 2 BAYONETS WIDE. IT IS DUG TO THE SAME DEPTH AS THE MAIN POSITION.

BIPOD TRENCH



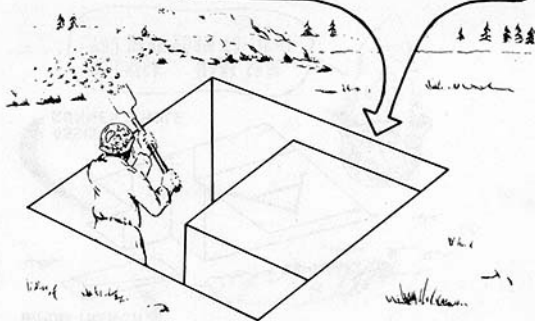
To save time explaining, I'll give him this sketch I have in my wallet.

RE-CHECK..... MAKE SURE YOU HAVE ROOM TO FIGHT.



IF WE GET A RESERVE MISSION, THEN I'LL ONLY HAVE A PDF AND SECTORS OF FIRE BUT NO FINAL PROTECTIVE FIRES (FPL).

LOWER THE POSITION PROFILE
BY DIGGING THE MACHINEGUN
PLATFORM DOWN 6 TO 8 INCHES.



NOW THAT HE'S DIGGING,
I'LL START THE RANGE CARDS.

THE RANGE CARD IS A RECORD OF FIRING DATA TO BE USED WHEN TARGETS CANNOT BE OBSERVED. TWO COPIES ARE NEEDED. ONE STAYS WITH THE MG POSITION AND ONE GOES TO THE PLATOON LEADER. ANY PIECE OF MATERIAL (WOOD, PAPER, METAL) CAN BE USED FOR RANGE CARDS.

FIRST, POSITION TRIPOD IN AREA TO COVER PRIMARY SECTOR. PLACE THE M-60 ON THE TRIPOD AND USING THE TRAVERSE AND ELEVATION MECHANISM ORIENT THE M-60 ON THE FPL (IF SELECTED) OR PRIMARY SECTOR. ON THE RANGE CARD SKETCH IN THE MG SYMBOL ORIENTED ON FPL OR CENTER OF PRIMARY SECTOR IF USING A PDF.

NEXT, I MUST SKETCH IN THE LIMITS OF THE PRIMARY AND SECONDARY SECTORS, FRIENDLY POSITIONS (LABELLED), MAGNETIC NORTH ARROW AT BASE OF MG SYMBOL, AND PROMINENT TERRAIN FEATURES.

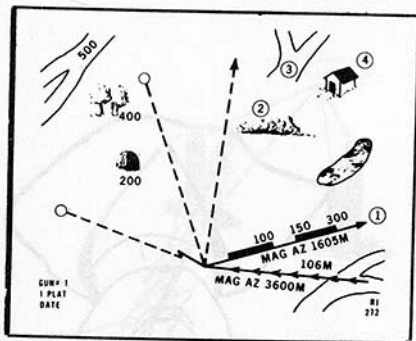
THEN ORIENT GUN ON A PROMINENT TERRAIN FEATURE AND OBTAIN A MAGNETIC AZIMUTH TO IT. ON THE RANGE CARD DRAW AN ARROW WITH BARBS ON IT FROM THE PSN TO THE TERRAIN FEATURE AND GIVE THE AZIMUTH TO APPROXIMATE DISTANCE TO AND DESCRIPTION OF THE FEATURE.

THE EXTENT OF GRAZING FIRE IS SHOWN AS A SOLID SINGLE LINE. THE NUMBER OF METERS OF THIS GRAZING FIRE MUST BE SHOWN.

FINALLY, I TAKE DIRECTION AND ELEVATION READINGS (FROM THE T&E MECHANISM) TO ALL TARGETS IN THE PRIMARY SECTOR AND ENTER THE INFO ON THE RANGE CARD. TARGETS IN SECONDARY SECTOR ARE SKETCHED ON THE RANGE CARD WITH THE RANGE BELOW THEM.

I'M GLAD I REMEMBER THE EXAMPLES OF RANGE CARDS GIVEN IN FM 23-67. THEY LOOK LIKE THIS:

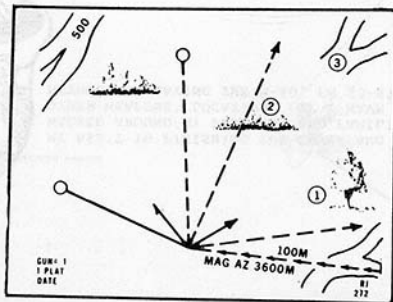
RANGE CARD WITH A FINAL PROTECTIVE LINE



DATA SECTION

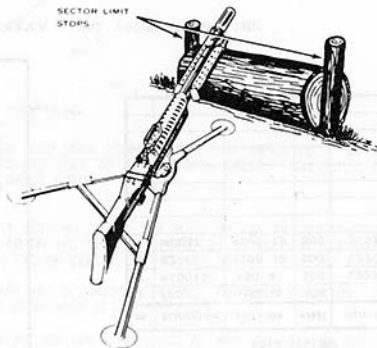
NO.	DESCRIPTION	ELEVATION	RANGE	DIRECTION	REMARKS
1	FPL	+50: 15	300		
2	HEDGES	+50: 41	300	L305	R25
3	RJ	+100: 10	600	L270	+5
4	HOUSE	+100: 15	500	R165	R3+2

RANGE CARD WITHOUT A FINAL PROTECTIVE LINE

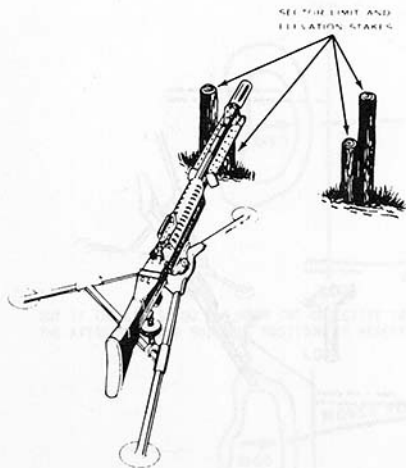




MY ASS'T IS FINISHING THE COVER AND CONCEALMENT AND I'VE WALKED AROUND MY POSITION AND FAMILIARIZED MYSELF WITH OTHER WEAPONS' LOCATION. IF I HAVE TO USE FIELD EXPEDIENT METHODS OF LAYING THE M-60, FM 23-67 HAD SOME GOOD IDEAS.



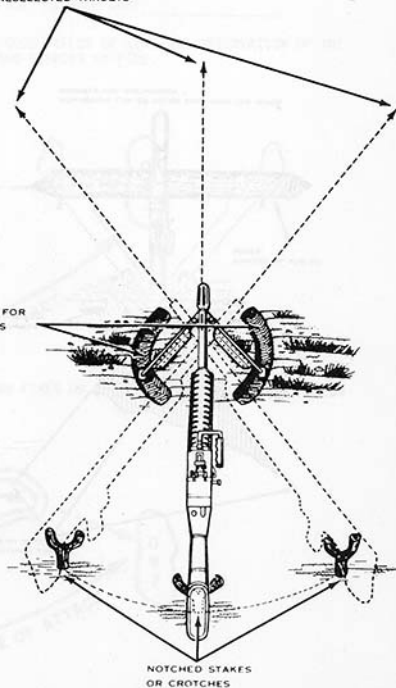
HORIZONTAL LOG OR BOARD USED WITH THE TRIPOD MOUNTED M60 MACHINEGUN

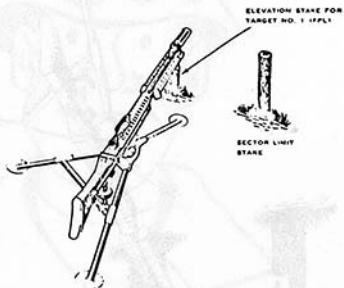


BASE STAKES FOR ENGAGING TARGET AREAS (OTHER THAN THE FPL) ON SECTOR LIMITS

LINE OF AIM FOR
PRESELECTED TARGETS

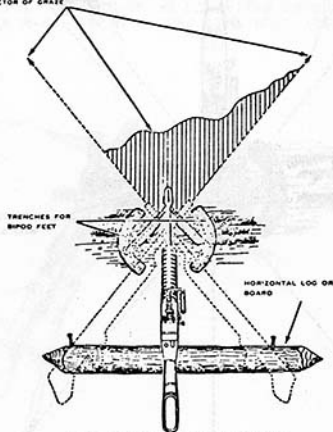
TRENCHES FOR
BIPOD LEGS





BASE STAKES FOR ENGAGING THE FPL
AND MARKING SECTION LIMIT

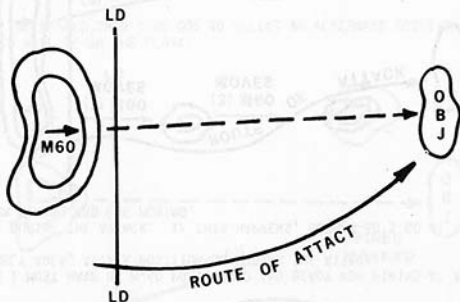
SECTION LIMITS AND
SECTOR OF GRAZE



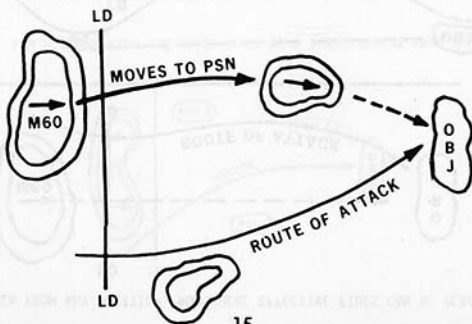
HORIZONTAL LOG OR BOARD USED WITH THE BIPOD
MOUNTED M80 MACHINEGUN

The grapevine has it, that we are to attack in a couple of hours. In case I get briefed late, I'd better think of what I've got to do in the attack. I know that _____

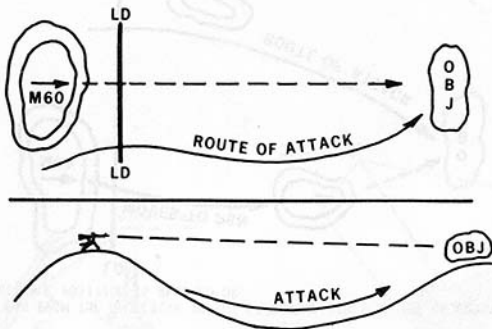
IF LINE OF DEPARTURE (LD) IS CLOSE TO THE OBJECTIVE, AND GOOD FIELDS OF FIRE AND OBSERVATION OF THE ENTIRE ROUTE EXIST, THEN THE MACHINEGUNS STAY ON THE LD AND SUPPORT BY FIRE,



BUT IF THE LD IS TOO FAR FROM THE OBJECTIVE TO PUT EFFECTIVE FIRES ON THE OBJECTIVE, THEN I'LL FOLLOW THE ATTACK UNTIL A SUITABLE POSITION IS REACHED OR

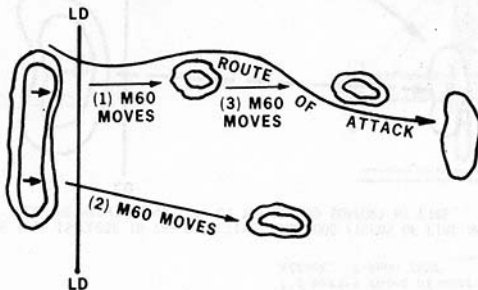


SUPPORT THE ATTACK FROM ANY POSITION FROM WHERE EFFECTIVE FIRES CAN BE PLACED ON OBJECTIVE.



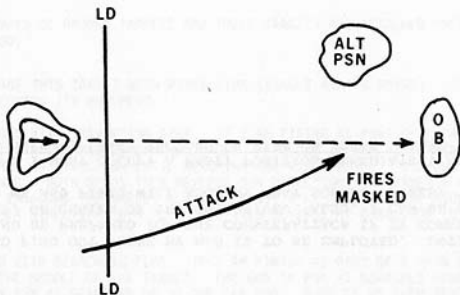
BUT, IN THE ATTACK I MUST HAVE MY M-60 POSITIONED AND READY FOR FIRING AT ALL TIMES TO INCLUDE: MOVEMENT, IN ASSEMBLY AREA, ATTACK POSITION OR DURING THE ATTACK.

I MAY HAVE TO MOVE DURING THE ATTACK. IF THIS HAPPENS, BOTH M-60'S GO AT ONCE OR WE MOVE IN BOUNDS WITH ONE GUN FIRING AND ONE MOVING.

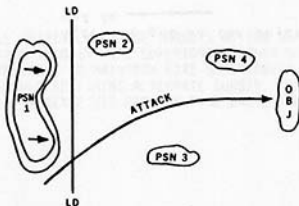



That's all well and good stuff, but what happens if my fire is masked by the attacking force. Masking occurs when the attackers' movement puts them in the area my rounds are hitting. If that happens, I've got to move to a new firing position.

IF I KNOW MY FIRES WILL BE MASKED, THEN I'VE GOT TO SELECT AN ALTERNATE POSITION BEFORE I HAVE TO MOVE. PREFERABLY THIS POSITION WILL BE ON THE FLANK.

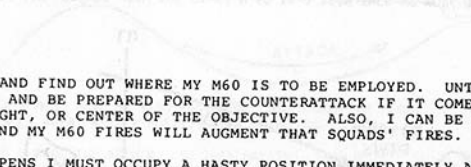


BUT IF I'M WORKING WITH THE OTHER M-60 AS A TEAM THEN WE MOVE IN BOUNDS.





After we get on the objective I've
got to



CONTACT MY LEADER AND FIND OUT WHERE MY M60 IS TO BE EMPLOYED. UNTIL I FIND OUT I'LL SET UP THE MACHINE GUN AND BE PREPARED FOR THE COUNTERATTACK IF IT COMES. MY LEADER CAN PUT ME ON THE LEFT, RIGHT, OR CENTER OF THE OBJECTIVE. ALSO, I CAN BE ATTACHED TO ONE OF THE RIFLE SQUADS AND MY M60 FIRES WILL AUGMENT THAT SQUADS' FIRES.

NO MATTER WHAT HAPPENS I MUST OCCUPY A HASTY POSITION IMMEDIATELY AND BE PREPARED FOR A COUNTERATTACK. I'LL NEED AT LEAST SECTORS OF FIRE OR PDF'S. AMMO STATUS AND CASUALTIES MUST BE REPORTED.

-There are some basic principles of target engagement that I should keep in mind when firing the machine gun.

-IF WE ARE EMPLOYED IN PAIRS, THE RIGHT GUN POSITION IS THE #1 POSITION; THE GUN POSITION ON THE LEFT IS THE #2 POSITION. (POSITIONS ARE NUMBERED, NOT THE GUNS OR GUNNERS.)

-THERE ARE GENERALLY 3 TYPES OF GROUND TARGETS AND THESE TARGETS ARE ATTACHED IN THE SAME WAY IF I AM USING THE BIPOD OR TRIPOD.

POINT TARGET: I ENGAGE THIS TARGET WITH FIXED FIRE (SINGLE AIMING POINT). IF IT MOVES, I KEEP FIRE ON THE TARGET BY FOLLOWING ITS MOVEMENT.

LINEAR TARGET: ENGAGED WITH TRAVERSING FIRE. IF I AM FIRING AS PART OF A PAIR OF MGS, THE AIMING POINT FOR BOTH GUNS IS IN THE MIDDLE OF THE TARGET. THE GUN IN PSN #1 TRAVERSES RIGHT, FIRING A BURST AFTER EACH CHANGE IN DIRECTION UNTIL REACHING THE RIGHT FLANK. THE GUN IN PSN #2 TRAVERSES LEFT IN THE SAME MANNER. BOTH OF US THEN REVERSE OUR DIRECTIONS OF TRAVERSE AND RETURN TO THE MIDDLE OF THE TGT. IF I AM ENGAGING THE TARGET ALONE (1 GUN), I'LL START IN THE MIDDLE OF THE TARGET AND THEN TRAVERSE IN EITHER DIRECTION TO A FLANK AND THEN REVERSE MY DIRECTION TO COVER THE REST OF THE TARGET.

DEEP TARGET: ENGAGED WITH SEARCHING FIRE. IF I AM FIRING AS PART OF A PAIR OF MGS, THE AIMING POINT FOR BOTH GUNS IS IN THE MIDDLE OF THE TARGET. THE GUN IN PSN #1 SEARCHES DOWN TO THE NEAR END OF THE TARGET AND THE GUN IN PSN #2 SEARCHES UP TO THE FAR END. BOTH OF US THEN REVERSE OUR DIRECTION OF SEARCH AND RETURN TO THE MIDDLE OF THE TARGET. IF I AM ENGAGING THE TARGET ALONE, I'LL START IN THE MIDDLE OF THE TARGET AND REACH DOWN TO THE NEAR END AND THEN BACK UP TO THE FAR END COVERING THE REST OF THE TARGET.

-I SHOULD ALSO REMEMBER THAT I WILL INITIALLY ENGAGE TARGETS AT THE RAPID RATE OF FIRE (6 TO 9 ROUND BURSTS AT 2 TO 3 SECOND INTERVALS) IN ORDER TO GAIN FIRE SUPERIORITY, THEN USE THE SUSTAINED RATE OF FIRE (6 TO 9 ROUND BURSTS AT 4 TO 5 SECOND INTERVALS) TO MAINTAIN FIRE SUPERIORITY. IF I AM FIRING AS PART OF A PAIR OF MACHINE GUNS, WE (BOTH GUNS) SHOULD BE FIRING ALTERNATE BURSTS. IF FOR ANY REASON ONE OF OUR GUNS MALFUNCTIONS, THE OTHER GUN SHOULD INCREASE HIS RATE OF FIRE UNTIL THE MALFUNCTION IS ELIMINATED AND BOTH GUNS ARE ONCE AGAIN FIRING.

SUMMARY

THE M-60 MACHINEGUN IS A VERY DEADLY WEAPON WITH NUMEROUS CAPABILITIES. BUT WITHOUT THE PROPER TECHNIQUES OF EMPLOYMENT THE FULL BENEFIT CANNOT BE REALIZED. ALWAYS:

- USE PROPER COVER AND CONCEALMENT TO PROTECT YOU AND YOUR WEAPON.
- CLEAR FIELDS OF FIRE.
- KNOW HOW MUCH GRAZING FIRE EXISTS AND WHERE THE DEAD SPACE IS LOCATED.
- REMEMBER TO SELECT ALTERNATE POSITIONS BEFORE YOUR FIRES ARE MASKED.
- BE ALERT AND HAVE THE M-60 READY FOR IMMEDIATE EMPLOYMENT NO MATTER WHAT THE SITUATION IS OR WHERE YOU ARE LOCATED.
- BE PREPARED TO INCREASE YOUR RATE OF FIRE IF YOU ARE FIRING AS A PAIR OF MACHINEGUNS AND THE OTHER WEAPON HAS A STOPPAGE.
- HAVE AVAILABLE AT YOUR POSITION YOUR MACHINEGUN'S SPARE PARTS KIT.